

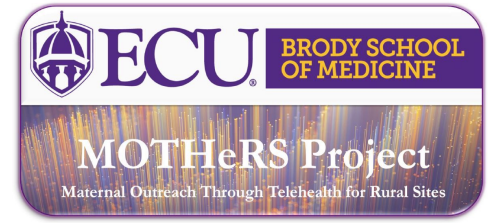
Emergency Food Bag and Patient Education for the MOTHeRS' Project

ECU Family Medicine Nutrition Services Team

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The MOTHeRS' Project



Maternal Outreach through TeleHealth in Rural Sites

- Funded by the United Health Foundation
- Pilot program to provide mental health and maternal-fetal services via telehealth to women with high-risk pregnancies in 3 rural OB-GYN practices in eastern NC
- *AND* to address food insecurity (FIS)
 - Rates in these counties exceed the state average (18-24% vs 15%)

BACKGROUND

- FIS is associated with poor diet quality
- Poor diet quality during pregnancy is related to increased risk of maternal and fetal complications
 - Gestational diabetes, excess weight gain, dyslipidemia, preeclampsia, depression, anxiety, and poor fetal outcomes
- Current nutrition intervention strategies may miss some women with FIS at critical points during pregnancy
 - 2017 FNS data suggests <50% of all eligible pregnant women participate in the WIC program¹
 - FIS is often a cyclical occurrence

1. Food and Nutrition Service. WIC 2017 Eligibility and Coverage Rates. US Department of Agriculture website. Updated April 09, 2020.
<https://www.fns.usda.gov/wic-2017-eligibility-and-coverage-rates>

OBJECTIVE

To develop a *medically tailored, nutritionally-complete* **emergency food bag** with complementary **nutrition education** handouts to address FIS identified in rural, high-risk pregnant women in the clinical setting

TARGET AUDIENCE

High-risk pregnant women who screen positive for FIS at *any* prenatal appointment in 3 counties in rural, eastern NC, selected to pilot the program

THEORY

- Grounded in the **socio-ecological model**
- Addressing FIS to improve health outcomes in high-risk pregnant women requires a multi-layered approach with intervention at:
 - **Individual:**
 - Food behaviors, social stigma, knowledge
 - **Community:**
 - Screening, education, resources
 - **Societal** levels:
 - Nutrition assistance programs

DEVELOPMENT OF AN EMERGENCY FOOD BAG

- Literature review to identify essential, but often under-consumed, nutrients during pregnancy
- Evaluation of nutrition profile of common prenatal vitamins
 - Expected nutrient coverage *and* gaps in coverage (<50% RDA)
- Review of foods and nutrients available in WIC package V
- Synthesized list of food sources high in identified target nutrients
 - USDA and NIH published food lists
- Interviewed local nutrition and health professionals with expertise with FIS or serving high-risk pregnant women
 - Population characteristics, food habits, food preferences, and needs



FOOD BAG INCLUSION CRITERIA

- Good source of at least one of the identified target nutrients
- Shelf-stable
- Affordable
- Readily available at a local grocery store
- Well-received and well-utilized by target population
- Appropriate regardless of trimester or comorbidities
 - Preference for low-sodium, low-added sugars, and low-carbohydrate
- Complements WIC Food Package V

MOTHeRS' Food Bag			
Food Category	Food Type	Special Instructions	Quantity
Meat - Seafood	Canned	Salmon (packed in water, with bones) Chunk <i>Light</i> tuna (packed in water)	2, each
Meat - Other	Canned	Chicken (packed in water)	2
Nuts/Nut Butters	Jar or Bag	Mixed nuts (<50% peanuts; low sodium preferred) Peanut butter (low sugar and low sodium preferred)	1, each
Cereals	Ready-to-Eat or Cooked	RTE cereal (low sugar, whole grain) Grits (individual packets or canister) Oatmeal (canister or plain/low sugar packets)	1, each
Grains	Dry	Quinoa Egg noodles (fortified)	1, each
Snacks	Dry	Whole Wheat Crackers (reduced sodium preferred) Pretzels, baked (low sodium, if available)	1, each
Non-starchy Vegetables	Canned	Leaf Spinach, asparagus, collard greens (unseasoned), tomatoes, mushrooms, green beans; (low sodium preferred in all types)	1, each OR 6, total
Starchy Vegetables	Canned or Dried	All types; Black beans, kidney beans, chickpeas, white beans, pinto beans, black eyed peas, etc.	2, canned 1, dried
Fruit	Dry or Individual cups	Raisins (seedless, black or golden) Mandarin orange cups (low sugar, or packed in water) Applesauce cups (unsweetened)	1, each
Dairy	Dry or Canned, evaporated	Evaporated milk (low-fat, with Vitamins A and D added) Dry milk (nonfat, with Vitamins A and D added) Carnation Breakfast Essentials, Light Start drink mix (sugar free)	2, canned 1, dry 1, breakfast mix

Developed by Kay Craven MPH, RDN, CDCES; Kathryn Kolasa PhD, RDN; Brittany Smith MS
ECU Physicians, December 2020

FOOD BAG ANALYSIS

Final Bag:

- 31 food items
- 26 lbs
- Less than \$70

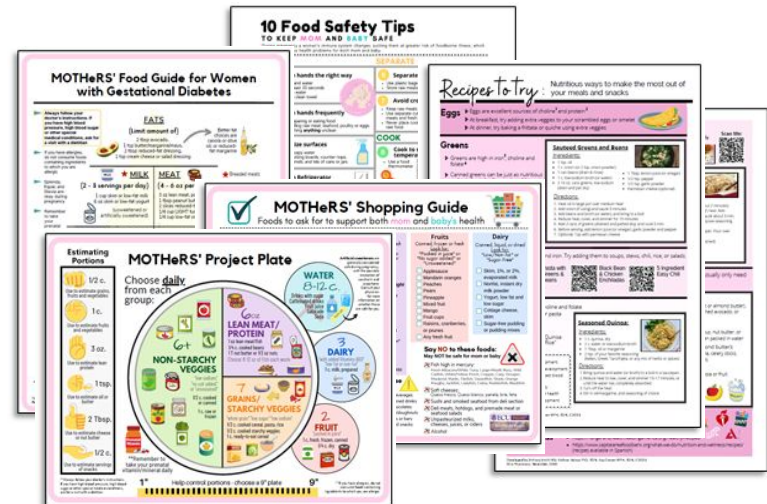
Nutrient analysis and estimated duration of coverage:

- ESHA food nutrition database
- On its own, meets target nutrient needs for **2 weeks**
- Combined with WIC, meets target nutrient needs for **4 weeks**

NUTRIENT	RDA	MOTHeRS' Bag	%RDA Covered (over 2 wks)
Calories	2000 kcals	23,658 kcals	85%
Protein	80 gm	1,193 gm	107%
Fiber	28 gm	404 gm	103%
Folate, DFE	600 mcg	14,337 mcg	171%
Iron	27 mg	464 mg	123%
Vitamin D	15 mcg	178 mcg	84%
Calcium	1.0 - 1.3 gm	14,208 mg	88%
Choline	> 450 mg	4,184 mg	66%
Iodine	220 mcg	991 mcg	32%
Total Omega 3's	650 mg	15,510 mg	170%
DHA	300 mg	4,110 mg	98%

NUTRITION EDUCATION MATERIALS

- Available in English and Spanish
- Reviewed and evaluated by 18 professionals with expertise serving rural, underserved pregnant women and/or FIS
- Included:
 - Guide for healthy eating during pregnancy
 - Project Plate and Shopping Guide
 - Food Guide for Women with GDM
 - Food safety during pregnancy
 - Recipes and tips to increase utilization of food bag contents



IMPLEMENTATION

- Orientation modules recorded and made available through Eastern AHEC to train clinic staff to:

- Receive, safely store, and distribute emergency food bags, and correctly fill out voucher form

- Screen for FIS using the

2-Question Hunger Vital Sign Screener

- Validated for use in the clinical setting

- Counsel recipients using MOTHers' Project handouts

- An emergency food bag, brief nutrition education, and community resource list are made available *each* time a patient screens positive for FIS at a prenatal appointment
- Food bag recipients asked to participate in follow-up survey

2-Question Hunger Vital Sign Screener

- | | | |
|--|---------|-----------|
| 1. Within the past 12 months, we worried that our food would run out before we got money to buy more | | |
| Never | Usually | Sometimes |
| 2. Within the past 12 months, the food we bought just didn't last and we didn't have money to get more | | |
| Never | Usually | Sometimes |

EVALUATION AND CONCLUSION

- *Process evaluation*
 - Semi-structured, audio-recorded, telephone interviews
 - Transcribed verbatim
 - Deductive content analysis to identify themes
 - Consensus of themes following independent review of transcripts using codebook
- Preliminary results suggest:
 - Acceptance, high satisfaction, and utilization of the emergency food bag
 - Limited access to other food and nutrition resources
- Findings align with previous studies demonstrating that **medically-tailored food resources provided in the clinical setting are acceptable, and potentially associated with reduced social stigma**

ACKNOWLEDGEMENTS

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THANK YOU!

Do you have any questions?

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Orientation training modules, MOTHeRS' educational handouts, and community resources lists available for free online through Eastern AHEC

- **Course to Register for:** MOTHeRS' Project: Orientation to Screening and Treating Patients for Food Insecurity (65708)
<https://www.easternahec.net/courses-and-events/65708>

RESOURCES

MOTHeRS' Project Materials are available in English, Spanish, color, and black and white on ECU ScholarShip:

- **MOTHeRS' Project Plate and Shopping Guide:**

- <https://nam02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fhdl.handle.net%2F10342%2F8944&data=04%7C01%7Csmithbr12%40students.ecu.edu%7C426de2a2f3f44326991608d9034a5ffd%7C17143cbb385c4c45a36ac65b72e3eae8%7C0%7C0%7C637544440227895798%7CUnknown%7CTWFpbGZsb3d8eyJWJoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IklhaWwiLCJXVCi6Mn0%3D%7C1000&data=q49UYimxh8ZdQAbK4RKsggN87ivUe8s2se5a57WeEJI%3D&reserved=0>

- **MOTHeRS' Project Food Guide for Women with Gestational Diabetes:**

- <https://nam02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fhdl.handle.net%2F10342%2F8941&data=04%7C01%7Csmithbr12%40students.ecu.edu%7Cc3ec413ac4f041f444be08d9034a5195%7C17143cbb385c4c45a36ac65b72e3eae8%7C0%7C0%7C637544439992319887%7CUnknown%7CTWFpbGZsb3d8eyJWJoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IklhaWwiLCJXVCi6Mn0%3D%7C1000&data=oUX0qQO9GPuzH9mXBWeukzU9%2FHnB6yyZTPxIx5PxWmo%3D&reserved=0>

- **MOTHeRS' Project Food Safety Tips:**

- <https://nam02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fhdl.handle.net%2F10342%2F8946&data=04%7C01%7Csmithbr12%40students.ecu.edu%7Ca65b6afa027244e96c6008d9034a760e%7C17143cbb385c4c45a36ac65b72e3eae8%7C0%7C0%7C637544440605390942%7CUnknown%7CTWFpbGZsb3d8eyJWJoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IklhaWwiLCJXVCi6Mn0%3D%7C1000&data=V%2BhaLsP85NaNac%2BPJ%2BqWOU9tuhOXJ7szHyaWBGuqDGI%3D&reserved=0>

- **MOTHeRS' Project Recipes:**

- <https://nam02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fhdl.handle.net%2F10342%2F8943&data=04%7C01%7Csmithbr12%40students.ecu.edu%7C2047eb85a2164ae7795d08d9034a5ae2%7C17143cbb385c4c45a36ac65b72e3eae8%7C0%7C0%7C637544440173436807%7CUnknown%7CTWFpbGZsb3d8eyJWJoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IklhaWwiLCJXVCi6Mn0%3D%7C1000&data=UBteBvEXRlpEmgpiTtoC2jHilqiGy3sCz5OUuBUW0M%3D&reserved=0>

- **MOTHeRS' Project Technical Report:**

- <https://nam02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fhdl.handle.net%2F10342%2F8942&data=04%7C01%7Csmithbr12%40students.ecu.edu%7Cf311c9e90d3049081ad508d9034a568e%7C17143cbb385c4c45a36ac65b72e3eae8%7C0%7C0%7C637544440071534807%7CUnknown%7CTWFpbGZsb3d8eyJWJoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IklhaWwiLCJXVCi6Mn0%3D%7C1000&data=f6m4bQ8DcvjzQD2xacAqMPowHglHZ3AqgkrRIFkC6S0%3D&reserved=0>